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HOUSEHOLD ENGINEERING

SCIENTIFIC MANAGEMENT IN THE HOME

BY MRS. CHRISTINE FREDERICK
CONSULTING EDITOR LADIES HOME JOURNAL, ETC.

A NEW CORRESPONDENCE COURSE

CHICAGO
506 WEST SIXTY-NINTH STREET
ILLINOIS

AMERICAN SCHOOL OF HOME ECONOMICS
CHICAGO

Dear Friend:-

"The fascination of the new housekeeping"!

That is how you will speak of the everyday humdrum tasks of the home after you get into our new Course HOUSEHOLD ENGINEERING, SCIENTIFIC MANAGEMENT IN THE HOME.

We might have called the course "Easier and Quicker Ways in Housekeeping", only it is so very much more. It shows the underlying principles of efficient work as well as the details of better practice. This makes it just as helpful in the farm home and city appartment as in the town house--just as valuable to experienced housekeepers as to beginners--just as useful to maid as to mistress.

Read the Introduction in the followiug pages and you will see that this new "scientific management" and "efficiency engineering" is really nothing very perplexing or difficult. But the results of its application in all industries have been truly marvelous.

This Course applied to your own housekeeping will actually produce results just as unbelievable. You will easily save a third or more of the time spent in your housekeeping. The housework will go more smoothly with less effort. It will be done better with a considerable saving of expense. All this we guarantee. The satisfaction of achievement will add to your enjoyment of the extra two or three hours daily to "yourself".

Even more important, the course gives to housekeeping fresh, live interest--changes indifference to enthusiasm--brings about the splendid efficiency attitude of mind that masters all difficulties. It is an inspiration to beginners, the way out for the discouraged and the next step forward for experienced housekeepers.

"Household Engineering" is divided into twelve (12) Parts or lessons--attractive green covered lesson books of from 40 to 60 pages, very liberally illustrated. In the back of each you will find about five questions to be answered on the Report Blank furnished. These reports will be read by Mrs. Frederick or her assistants, graded, all questions answered, and returned. The Course can easily be finished in one year but longer will be allowed for answering the questions if desired. The lesson books will be sent once a month for twelve (12) months even tho you do not answer the questions--a wonderfully interesting continued story on the NEW ART OF SCIENTIFIC HOUSEKEEPING.

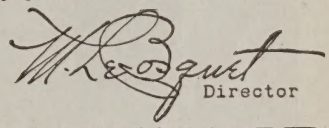
If you are at all interested in housekeeping, or if you wish to make progress in your life work, or if you would like help in your problems you should enroll NOW for this course. The tuition fee is $18.00 but we offer for this month ONLY, one-third rate tuition or only $6.00 in full payment--a little more by the month.

All who doubt the value of the Course to them may enroll FREE OF CHARGE as "SPECIALS"--pay nothing till the Course has more than earned its cost.

I have put in this last offer because so many housekeepers do not believe that their system, worked out from years of experience, can be improved much--certainly not a third of their time saved! If you think that, I particularly want you to enroll as a "special". Let the Course prove itself--not a cent to pay if it does not. You promise nothing. You are under no obligations. There is no "string" attached.

This offer is limited however, so send the coupon TODAY. Join us in this movement to "emancipate the home from drudgery." Be a progressive.

Sincerely yours,



Director

ONE-THIRD RATE COUPON—VOID MARCH 31, 1916

AMERICAN SCHOOL OF HOME ECONOMICS
506 West 69th St., Chicago, Ill.

Date_____

Please enroll me for your new course HOUSEHOLD ENGINEERING, SCIENTIFIC MANAGEMENT IN THE HOME in twelve (12) parts; Part I to be sent by return mail and the remaining Parts, one per month. Correspondence instruction, diploma and membership privileges—i. e. use of Circulating Library, Purchasing Department, Bureau of Information, Club Study Department, etc. to be included for three years.

I enclose $6.00 in full payment. (OR) I enclose 50 cents (stamps) and will pay $1.00 per month till $6.50 in all is paid. (OR) Enroll me as a "SPECIAL" with nothing to pay until I am convinced of the value of the course to me; then I will pay $6.50 cash (or) $7.00 in monthly payments, otherwise I will return lesson books received.

It is understood that if I am not satisfied with the course when I have read all the Parts that all money paid will be returned upon request.

SIGNED _____
Mrs. or Miss

ADDRESS _____

Kindly give names of acquaintances who may be interested in this Course—your name not to be mentioned. In return we will send you our Bulletin "Free Hand Cooking," or "Food Values," or "Five Cents Meals," or "The Up-To-Date Home, Money and Labor Saving Appliances." WHICH?

MRS. FREDERICK'S REMODELED COUNTRY KITCHEN AT "APPLECROFT"

High windows, oil-stove, cabinet, and metal table. Fireless cooker slides under table when not in use. At the extreme left is shown an "elevator ice-box."

HOUSEHOLD ENGINEERING

A PERSONAL INTRODUCTION

SEVERAL years ago I faced the problem which confronts many young mothers—how to do my housework and care for two small children, and yet have any time for myself or outside interests.

I had managed my mother's home at different periods and really liked housework, especially cooking. But now it was a daily struggle to "get ahead" of household drudgery. Try as I would, there seemed so many tasks to do, so many steps to take, and so many matters needing my attention and supervision. Just as I felt I had reduced the cleaning to its lowest terms, I found the cooking or the laundry work or the mending claiming the remainder of my time. It was a continuous conflict to do justice to all the housework tasks, and yet find enough time for the children. And between it all, I knew I was not doing justice to myself, and that I was becoming more and more tired out. Indeed, I was often without much energy to "dress up" in the evening, and when my husband came home, I was generally too spiritless to enjoy listening to his story of the day's work.

Things were dragging on in this unsatisfactory way and I was becoming more and more discouraged with what seemed my lack of ability to manage my household problem. Occasionally I was so depressed as to wish that I were not married and that I was back in my teaching "harness" where I *did* have a grip on things!

Just about this time my husband's work brought him in

touch with the new movement called "scientific management," and he came home with glowing accounts of what it was accomplishing in the various shops, offices and factories where it was being followed. In fact, he and his friends (some of whom were pioneers in the movement) talked nothing but this new "efficiency idea." Because I had an intuition that perhaps in this new idea was the life-preserver for which I had been so earnestly searching in my own problem, I listened eagerly to their discussion.

Purpose of Scientific Management

I found that the purpose of scientific management was to save time and effort and to make things run more smoothly. Its object was to short-cut and reduce work to such a system that the shop or office or any business would be managed with less effort, less waste, and even at a lower cost. It seemed to me that this was exactly what my aim was in my own home, only I had all this time been helpless to carry it out! That was just what I too wanted—some plan or general guiding principles that would make my housework easier, more successful and less expensive. If this wonderful new "scientific management" brings about such result in other businesses, why couldn't it do the same in my business of home-making?

So I decided to learn all about it and understand it, and I went for help to my husband and his friends who were applying the new idea every day.

"If this new efficiency idea is all you claim," I said to them, "and can be followed in work as widely different as iron foundries and shoe factories, I don't see why it can't be applied to housework as well. You men have made me so interested in it that I want to try it in my own home. But first I want you 'efficiency engineers,' as you call yourselves, to explain the idea to me in detail—the why and

the how and every point so that I will be sure that I thoroughly understand it before I attempt to put it into practice. Will you?"

Principles of Efficiency Engineering

So my husband and other efficiency engineers made it clear to me, and I found that scientific management was nothing difficult or expensive or mysterious, but that it was a *plan,* or guiding *set of twelve principles,* as follows:

1. Ideals.
2. Common Sense.
3. Competent Counsel.
4. Standardized Operations.
5. Standardized Conditions.
6. Standard Practice.
7. Despatching.
8. Scheduling.
9. Reliable Records.
10. Discipline.
11. Fair Deal.
12. Efficiency Reward.

"There is this first principle of Ideals," they explained. "When we go into a factory and try to improve the work, the first thing we ask the owner about his business is, What are you running it for? The reason so many people are not making a success of their business is because they do not know *why* they are running it. Yet ideals are the most important thing to have in any work. They are that 'something' that controls and guides the whole plan, a kind of chart they are trying to follow. *You must know where you want to go before trying to get there.*

"Many women do have a strong ideal in their home-making. It frequently is health or the education of their children, or sometimes only a spotless house. Think of the strong ideals that the mother of Charles Wesley and his brother must have had for their education to buoy her up in all those years of poverty! The ideal can be so strong as to look beyond present difficulties and discouragements and make work a success in spite of apparently handicap-

ping conditions. The clearer a homemakers' ideals, the more bound her work is to succeed. Homemakers, like other managers, must know what they are striving for.

Common Sense

"Then there is this next principle—Common Sense, which is sometimes only a homely term to cover some of the other principles. It is common sense to be sure your tools are sharp and in good condition before you start work—and it's efficiency as well. Competent Counsel means expert advice. We efficiency engineers are one kind of competent counsel because our past experience and practice makes us 'competent' to come into a new factory and suggest better methods and plans. Other 'counsel' is found in books, and the written experiences of what has been found out in this or that field. Even the most successful business men profit by the 'counsel' of specialists and their recorded experiences in solving problems in other lines. Many firms employ such paid counsel to visit their branch offices, instruct their salesmen, help their dealers, or in some way keep the workmen on the right track."

The efficiency engineers continued their explanation while I listened attentively.

Standard Operations

"Standardized operations, etc., sounds formidable, but you will see clearly what the next three points mean. For instance, when we go into a factory, we watch the men at work, we see what motions and tools they use; then, after repeated experiments and time studies, we try to give them standardized or definite conditions of work, and show them methods or standardized operations. This means working at the right height, with the right tools, under the best conditions of light, ventilation and comfort, with the least

possible waste of energy and time. When we have found out this best and shortest,—or 'standardized'—way, we write it down, and these instructions of just how to do a given task are called 'standard practice.' Then all the workmen need to do is to follow these instructions and they get the best results."

Despatching and Scheduling

"The next two points of Despatching and Scheduling are very important," they continued. "You see, when we have determined the one best or standard way to do any task, we are not quite finished. We have to go still further and find the best order of work, or *when* to do it, as well as how to do it.

"Despatching means planning, and Scheduling means the carrying out of that plan. You know how they despatch trains on schedule time. Suppose a train leaves Chicago at 8 P. M. and arrives at St. Louis at 7 A. M. The despatching consists in running the train so that it reaches all the intervening stations—Peoria, Springfield, etc.—at a specified time. The schedule is the 11 hours it takes to make the trip. Work in a factory is despatched in much the same way. The raw material enters one room and then another and so on; or the workmen take up first one task and then another after it has been laid out in definite order by the foreman. This means saved time, and orderly, unconfused work.

"There is a great deal to be explained about Immediate, Accurate and Reliable Records. It includes ways of keeping information, bills, receipts, addresses, etc., so that no time is wasted looking for a piece of information when needed.

"The last three points—Discipline, Fair Deal and Efficiency Reward—taken together, refer to the benefits that scientific management brings to the worker himself. It

isn't enough to make work shorter and easier and less wasteful—it must mean more happiness and even more money to those who work. In shops where scientific management is in force, there have been few strikes and troubles. Applied to the home, it would refer of course to the hired worker or servant. If a mistress applied the principles of Fair Play, for instance, to her help, they wouldn't leave her in a crisis, perhaps, as they do now. And if she used the principle of Efficiency Reward, she might secure from them that something over and above mere work—that "service plus"—which makes any employee really valuable."

These Principles in Operation

After I had grasped this brief explanation of scientific management, I visited factories and places where I could see the principles in actual operation, so as to make it even more clear in my mind.

I saw the marvelous improvement this efficiency idea had brought in the commonplace task of laying bricks, which had been done up till then in the same way since the time of the Pharaohs. In all history, bricks had been dumped in a mixed pile at the workmen's feet. Then he had to stoop his entire weight, 150 pounds say, each time to pick up a 4-pound brick before he set it in place. Think of the thousands of times a day he did this useless stooping! Now, when the efficiency engineers watched bricklayers at work, they saw how many waste motions and time were lost in this senseless stooping; so they devised a little adjustable table, which brought the bricks in an orderly pile to the worker's side, and because he didn't need to stoop at all, or even take time to sort the bricks, he now laid 350 bricks an hour where before he could lay only 120, besides working with far less fatigue and effort.

Then I was surprised to see how "common sense" and "standardized conditions" had been applied in a cash register factory. It had been the habit of the workmen to go every morning for their special tools to lockers at the end of a very long floor, and to return the tools there in the evening. When "competent counsel" efficiency men studied this factory, they immediately noticed this twice-a-day double walk across the floor, with resulting confusion, loss of time, and talking. This waste of time and steps was avoided later by having the benches of each worker fitted with small drawers and cross-strips to accommodate each man's tools. Then the moment a man came to his bench, he could start work, and at night work until the whistle blew, which meant more work and less unnecessary wasted time.

I visited another instance of scientific management in the shop of a chemist who had a force of girls packing pills into boxes. Formerly they counted out a hundred pills by hand, at the rate of one box a minute. But by installing a simple little device which automatically counted a hundred pills and pushed them off in a little shovel into boxes fed to them on a belt underneath, each girl was now able to fill twenty boxes a minute with no more labor.

Again, I saw a workman in an envelope factory who had been considered the best in the shop because he could turn out the largest number of envelopes per hour. But when the efficiency engineers observed him, they found that he took four cuts to each paper, thus making a great deal of waste and expense. By finding a new way to cut envelopes with only three cuts, the efficiency engineers saved tons of paper and thousands of dollars for the firm each year. And I will never forget the increased efficiency which resulted in one foundry by the most simple little change. Formerly the workers used small shovels which meant very frequent stooping to dispose of a given pile of coal. But

by studying to see just what weight and shape of larger shovel a man could handle most easily, and yet carry the largest load, the same number of workers were able with the new large shovel to move the same load of coal in one-third the time! And all because scientific management had studied a *shovel!*

Scientific Management in the Home

In every instance I saw how these efficiency principles were saving time, and effort, and money, wherever applied. The more I saw and read, the more certain I felt that they could save time and effort and money in my business—the home. There was the point of height—didn't I with hundreds of women stoop unnecessarily over kitchen tables and sinks and ironing boards as well as bricklayers stoop over bricks? Couldn't we perhaps standardize dishwashing by raising the height of the sink and changing other conditions? Did we not waste time and needless walking in poorly arranged kitchens—taking twenty steps to get the egg-beater when it could have been hung over my table, just as efficiency insisted the workman's tools must be grouped? Couldn't my housework train be despatched from station to station, from task to task, and I too work on a "schedule," or definite plan, so that I wouldn't lose time in thinking what to do next or in useless interruptions?

I came to earnestly believe that scientific management could, and must, solve housework problems as it had already solved other work problems. I began to see where I had been losing time—where I had been taking waste motions and useless steps—where I could use different tools and methods. Formerly I had been doing my work in a dead, mechanical way, but now every little task was a new and interesting problem. I found that housework was just as interesting and more so than many other tasks of business.

Every day I tried to find new ways, new methods and new short cuts in my home problems. If I made out a good schedule of work for one week I tried to improve on it for the week following. No housework detail was too small or too unimportant. I constantly kept in mind that "shovel" which had cut down the drudgery of coal heaving by one-third! I found that I, too, was actually doing my work in almost one-third less time, without any extra physical, and with far less nervous effort. I found that I *could* "despatch" my work, that I *could* "standardize" it to a great extent, and so have that longed-for "time to myself" some part of the day.

The Efficiency Attitude of Mind

But by far the best result of all that came was the confident "efficiency attitude" of mind which I developed. No matter how hard things were—and they did not grow perfect all at once—I had that inward feeling that they would, and should, come right in the end. I felt that in spite of any difficulty or trying conditions, that I *could* master my house problems—that there *were* solutions, and that there was no such word as "fail" in the whole language of scientific management. I cannot express how much poise and determination came from this efficiency attitude,—the attitude of being superior to conditions, of having faith in myself and in my work, to feel that it was drudgery or degrading only if I allowed myself to think so. I felt I was working hand in hand with the efficiency engineers in business, and that what they were accomplishing in industry, I too was accomplishing in the home.

I kept on studying, visiting plants and factories, and getting in touch more widely with the movement. Besides studying myself, I got friends to watch themselves at work and tell me the results. I began to test equipment and

household apparatus in my own home so that I could tell other women what I found out. I remodeled my own kitchen and then the kitchens of friends. Before I knew it, I became a "household engineer," and was called in as "competent counsel" by other homemakers!

I was so enthusiastic over the results of my experiments that I wrote four articles called "The New Housekeeping" which appeared in *The Ladies' Home Journal* of 1912. The interest from them was so great that I later brought out the same material in book form. Since then the application of efficiency principles and scientific management to the home has been more widespread than I ever dared hope or believe.

I have had literally thousands of correspondents among all kinds of homemakers. In one month only over 1,600 women wrote me for information. Sometimes I am able to help them with suggestions for a better kitchen arrangement. In many cases I lay out "schedules" of work. Again, I tell them about the new tools which are tested every month in my own home, Applecroft Experiment Station.

Not only have I been able to help these thousands of correspondents, but they have helped me with many suggestions and especially to understand more fully the problems that come to homemakers in all sections. Perhaps it is the cost of living, or the struggle with young children, or the lack of conveniences, or again, the feeling that housework is drudgery. I have tried to be a "competent counsel," a "household engineer" to all of them, and do for them what I so greatly wished someone could have done for me in my former housework struggles.

Household Engineering

This course in "Household Engineering" includes in greater detail everything given in my book, "The New

Housekeeping," and all the help and suggestions gathered from constant study during the five years which have elapsed since its publication.

My correspondence has given me an exceptionally wide viewpoint; and in this course I have tried to present the whole subject of the application of scientific management to the home in such a way that any homemaker, no matter where she lives or what her home conditions, can understand and apply it to the solution of her own problems.

I want you who take this course to feel that you are *not working alone* in your own home kitchen. I want you to feel that when you discover new methods of housework and better ways of management that you can receive the same recognition that a scientist or business investigator receives. Do not think you are working out the problem for your own home only. You are helping solve the problems of countless other women and homes, and *what you do will be passed on,* and help build up a great mass of proved knowledge on housekeeping. Is not housework as worth while studying as the shoveling of coal? Is not housekeeping the biggest, the most essential industry of all?

I am confident that some of you who take this course have already been successfully meeting difficult conditions. You need only a little more assistance and the presentation of this new viewpoint to become a household engineer yourself. All my efforts would be useless if you did not cooperate with me to carry out scientific management in your own home. I want your help and interest in making this course a mighty success. You are going to be one of a great band of women investigators, working toward the splendid aim of putting housework on a standardized, professional basis.

INTERIOR OF LARGE HOUSE KITCHEN

Note sequence of cabinet, stove and metal table, allowing work to proceed in chain of steps. Lighting unit of the "indirect" model. Open shelves, composition floor, and washable wall make for sanitation.

Grouping of Large Equipment

When we study the steps entailed in food preparation, we find that work in the kitchen does not consist of independent, separate acts, but of a series of inter-related processes. No matter whether we are serving a six-course formal luncheon, or a simple family breakfast, each act in food preparation is part of a distinct process. There are just two of these processes: (1) Preparing Food, and (2) Clearing Away. Each of them has (or should have) definite, distinct steps, as we see if we analyze our work from the time preparation of food is started to the moment when the last dish is washed and laid away.

The steps in the preparing process are:

(1) Raw materials taken from storage, refrigerator or pantry to
(2) Preparing surface where they are beaten, mixed, or put in condition to place on
(3) Cooking surface or in cooking device. When finnished, placed on
(4) Serving surface (table or tray) on which hot food is laid and given final touches before being sent to the table.

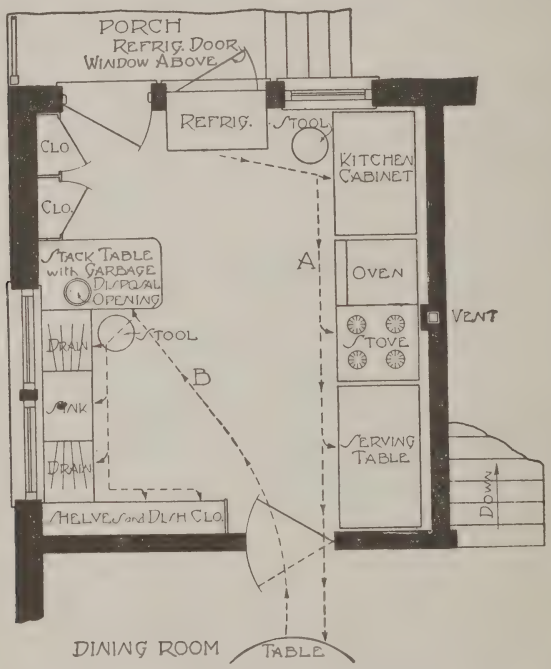
In other words, we (1) Collect, (2) Prepare, (3) Cook, and (4) Serve food materials according to these definite steps, even with so simple a task as boiling an egg.

The steps in the clearing away process are:

(1) Remove soiled dishes and utensils from dining-room.
(2) Stack and scrape them to right of sink.
(3) Wash, drain and wipe.
(4) Lay away in respective closets and shelves.

In other words, we (1) Remove, (2) Scrape, (3) Wash, and (4) Lay Away dishes and utensils according to these definite steps, in this definite order at every meal.

It therefore follows that the equipment connected with these two processes and their respective chain of steps should be arranged in a corresponding order. *This prin-*



EFFICIENT GROUPING OF KITCHEN EQUIPMENT
A. Preparing route. B. Clearing away route.

ciple of arranging and grouping equipment to meet the actual order of work is the basis of kitchen efficiency. In other words, we cannot leave the placing of the sink, stove, doors and cupboards entirely to the architect. The reason

Grouping Small Equipment

The same principle of grouping already applied to the fixed equipment (stove, sink, tables, etc.) must also be applied to the placing of the small, portable equipment. The old idea of keeping pots and pans out of sight, or of putting bowls and kitchen china in a separate closet from that containing groceries or utensils, is opposed to the efficiency idea which insists that bowls, pots, and *all utensils shall be permanently grouped at the place where they are used.* Any other plan or arrangement is step-taking and labor-wasting.

Concretely, if the egg-beater, mixing-bowl and nutmeg grater are used invariably at the preparing table, then near this surface they should be placed or hung. If frying-pans, soup-skimmers and ladles are always needed near the stove, near the stove they must be grouped. If can-opener, vegetable knife and apple corer are always needed near the sink, then near the sink they must be hung. Not until a close time study is made of the actual number of steps taken in each small kitchen task is it possible to realize the great amount of "waste motion" caused by failure to group the small equipment. Why walk ten feet across the kitchen to a distant pantry for the tea caddy when both the tea-pot and tea-caddy can be grouped near the stove where tea is always made? Why walk eight feet to a kitchen table and eight feet back again for the breadknife which is always needed near the breadbox kept on the cabinet across the room?

Articles should be grouped and placed nearest the surfaces on which they are used. Saucepans which must always be filled with water before being carried to the stove, belong near the sink to save steps in filling. Supply of clean dish-towels belong as near the sink as possible. All the distinctive dishwashing accessories and cleansing preparations also have their place near the sink.

VEGETABLE PREPARING TABLE

Paring directly or scraping dishes into pail underneath saves soiling any surface. Note knives, parers, graters, etc., directly above working surface. (The opening as shown is too large; should be about eight inches.)

TIME STUDY SHOWING SAVING THROUGH CORRECT GROUPING OF EQUIPMENT

STUDY 1.
1. Walk to storage.
2. Return from storage with small basket of potatoes, and lay on kitchen table.
3. Walk from table to pot-closet for pot.
4. Return from pot-closet to table, on which lay pot.
5. Walk from table to pantry drawer for knife.
6. Return from pantry with knife.
7. Peel potatoes on table surface.
8. Take pot of potatoes in hand and walk to sink.
9. Wash potatoes and fill pot with water.
10. Walk from sink to stove and lay pot on.
11. Walk from stove to table, place refuse in basket.
12. Walk from table to sink with refuse and empty same into garbage pail on floor.
13. Take scrub cloth from sink to table, wipe up same.
14. Return with soiled cloth and knife to sink.
15. Wash cloth, hang up. Wash knife.
16. Walk from sink to pantry drawer to replace knife.
17. Walk from pantry drawer to sink to get basket.
18. Take small basket back to storage.
19. Return from storage.

Time consumed: 5 minutes.

STUDY 2.
1. Walk to shelf adjacent to sink and get pot.
2. Walk to storage, carrying pot, and fill it with potatoes.
3. Return from storage, laying pot directly on vegetable preparing surface near sink.
4. Pick up knife (from nail above this surface).
5. Pare potatoes directly into pail (soiling no surface).
6. Wash potatoes and fill pot with water.
7. Wash and hang up knife (on nail above sink).
8. Walk with pot and lay on stove.

Time consumed: less than 2 minutes, not counting actual peeling, which would require the same time in each case.

RÉSUMÉ:	TIME REQUIRED	NUMBER OF STEPS
Study 1	5 minutes	19 steps
2	2 minutes	8 steps

CORNER OF KITCHEN SHOWING GOOD GROUPING

Note tea-pot and tea-supply, coffee and coffee-pot grouped together, so that with one motion they can be lifted down, and cup of tea easily made on table adjoining stove. All the small tools, spoons, etc., under the shelf are used on this table.

HOUSEHOLD ENGINEERING

II

PLANS AND METHODS FOR DAILY HOUSEWORK

CONDITIONS in no two homes are exactly alike; in one the family may number six or more; in another be only three. The location, whether city apartment, detached suburban house, or isolated country farm, also greatly affects the kind and extent of the housework. The house construction itself either increases or lessens the amount of work to be done. The hours of meals; whether or not there are children or invalids in the family; all these factors have a bearing upon the plans and methods of daily housework.

Letters by the hundred come to my desk, all bearing a similar plaint that women like housework, are fond of some special branch like cooking or sewing, but that they do not seem to be able to "get done" and have any time to themselves. In other words, the woman with the small family and the woman with the large family have the same problem—not how to do any special task, but *how to plan and work out a schedule of all tasks; how to relate work and apportion it so that it shall progress smoothly with as little interruption as possible.*

"My work is so different every day, and there are so many separate kinds of tasks that I don't see how it is possible to

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make a definite plan of daily work, or a 'schedule,' as you call it," some women have said.

But it is just because there *are* different tasks that a schedule is needed. If a woman were doing nothing but the same thing without interruption from morning until night, there would be no use for a plan of work. There is only need of a plan when there are several pieces of varying work to be done at different hours with different tools. Then it becomes essential to arrange these varying tasks in order and on time, so that the worker may proceed with the least amount of friction and effort.

Daily Tasks in All Homes

While it may appear that conditions vary greatly in any two homes, when we compare all the tasks done daily, we see that no matter how large or small the home, or what the number in the family, etc., the tasks themselves remain constant.

Daily Tasks	Weekly or Special Tasks
Cooking and serving of 3 meals a day	Laundry—washing and ironing
Dish and pot-washing	Mending or sewing
Bed-making and bedroom care	Thorough cleaning of house
Light cleaning of living-room, stairs, hall, kitchen, bath and porch	Window, silver or metal cleaning
	Special cooking or baking
	Refrigerator, pantry or closet cleaning
	Marketing and ordering of supplies

Every schedule or work-plan has two objects:

(1) The order of work.

(2) The time of work.

The order of work is by far the most important, and the thing that must be determined first. The reason for so much "nerves" and useless effort is solely to be found in the lack of order in the work-plan. *The time* at which a particu-

lar task is done *is secondary* and can be decided only after the order is arranged and provided for.

Planning the Daily Schedule

The first thing to do in making a schedule is to follow the principle which other executives follow, namely: *use the head first,* and with pencil and paper write down the few absolute conditions around which the schedule must center. For instance, the first facts to be set down would be the hours of meals, as these must be definite, and on them depend the cooking and some of the other work. Next, write down the order of the regular daily tasks in the way you think they will go best in your particular home; whether, for example, it will be better to wash all the breakfast dishes, straighten the kitchen, and start some cooking for lunch, before going upstairs to make the beds; or whether to merely put away food and scrape the dishes, proceed to making the beds, doing light cleaning, and return to start lunch later, doing breakfast and lunch dishes together. *What is the best order only the individual worker can determine for her individual case.* By watching yourself at work, by counting how long one plan of work takes versus a second plan, and which of the two seems to save the most interruption, most trotting, the best plan can finally be worked out.

In making out the daily schedule, the schedule of weekly or special tasks must be considered at the same time, because some of the special tasks are done each day. For instance, in planning both the cooking and cleaning of Monday or Tuesday, we must consider whether or not the laundry is to be done on either of these days. Again, in planning the daily schedule for Friday or Saturday, we shall have to take into account the special thorough cleaning of the house, special cooking, etc. In other words, there is no such thing as a true

To standardize any task we must study how we do it and then see if we cannot improve and shorten this former time of work. Bed-making, dishwashing, cleaning, especially, are purely routine pieces of work and can easily be standardized. Let us take dishwashing.

Time Studies of Dishwashing

When we say "dishwashing," we commonly think of a single household task. But when closely analyzed and made the subject of a time or motion study, we see that it is composed of several parts or steps, each with different motions, and generally performed with different tools, as follows:

(1) Scraping waste from surface of china, agate or other kind of dish or utensil.
(2) Stacking or arranging dishes on surface adjacent to sink, preparatory to washing.
(3) Actual washing with water, soap or other cleanser, with aid of cloth, mop or other mechanical means.
(4) Rinsing dishes with clear water.
(5) Wiping dishes with towel or equivalent drying.
(6) Laying away dishes on or in respective shelves and cupboards.

The efficiency of the whole process of "dishwashing" can be improved only by increasing the efficiency of each step.

From careful experiments made with dishwashing over a period of two months and analysis of each of the six steps in the dishwashing process, the following results were obtained:

	Test A		Test B	
Number of dishes	50		50	
Scraping and stacking	7	minutes	7	minutes
Washing and rinsing	11	"	10	"
Wiping	13	"	2	"
Laying away	8	"	4	"
Total Time	41	"	23	"

this article be a permanent investment?" *We cannot afford to buy tools for temporary use.* They should be regarded in the light of permanent purchases whose use will be extended over a considerable period of time. Too many women buy equipment on a basis of cost only. They look at the price without considering how many times the article will be used. It is *not the cost, but the number of times of use,* which must be the basis of economical, efficient buying.

For instance, a woman may see an attractive cherry seeder costing only $1.00. The ease with which it removes the pits and time it saves influences her to its purchase. She will, however, hesitate and pass by a serving tray on wheels costing $10.00 which she can just as readily see will save her steps in setting and clearing the table, serving meals, etc. The reason that she buys the $1.00 device in preference to the $10.00 article is not because she cannot afford either of them, but because she is wrongly buying on a basis of cost only. The cherry seeder may be used only ten times during the cherry season and never used the rest of the year. The serving tray will be used three times a day every day in the year, and on an investment basis compares with the cherry seeder as follows:

	First Cost	Cost Per Use
Cherry seeder, used 10 times during season.....	$ 1.00	$0.10
Serving tray, used 3 times daily, 365 days.....	10.00	.009

This illustration is used not to disparage the cherry seeder or any other good device, but to show *that equipment must be bought on a basis of the number of times of use,* and *not on the basis of first cost.* In other words, the homemaker must ask herself, not "How much does it cost?" but *"How many times will I use it?"*

This investment point of view must be taken especially in regard to more expensive equipment like washing machines,

dishwashers, mangles, fireless cookers, and others in which the first cost represents considerable money outlay. If her family is large and she hears of a good, labor-saving dishwashing machine costing $50.00, her attitude must not be "Oh I cannot afford $50.00!" She must reason to herself something like this: "This dishwasher with care will last a minimum of ten years. Allowing 6 percent interest on my money, the annual cost of such a washer would be $5.00 depreciation and $3.00 interest or 15 cents per week or about 2 cents per day."

The question of purchase then, resolves itself not into whether one can afford $50.00 but whether one can afford 2 cents a day to reduce the drudgery of dishwashing. This is the investment, "long distance" view which is the only really economical one to take in purchasing all tools, no matter how small or great their cost. The chief reason why women have not still more successfully put their homes on a mechanical and labor-saving basis as has long since been done by men, is because they have taken the short-sighted view and spent most of their money on small, cheap, but seldom used articles on a cost basis.

Tools Depend on Family Needs

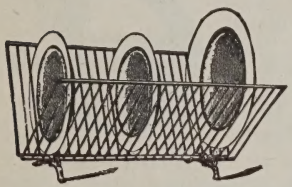
The second important question the homemaker must ask herself before purchasing equipment is, "Is this tool needed in my particular family?" A tool that would be an excellent investment for Family A might be an injudicious and unnecessary purchase for Family B. For instance, even so very useful a device as a breadmixer might be an unjustifiable outlay in a small family where bread was made only once a week. Similarly, an excellent fireless cooker, no matter how worth-while in itself, might be questionable as an investment for a family especially fond of broiled meats,

Coffee, spice and meat grinders.
Stationary colanders, strainers and mashers.
Potato parers, fruit corers and parers, slicing devices of all kinds.
Stationary chocolate and cheese graters.
Stationary nut crackers.

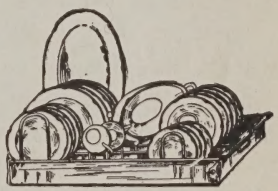
Dishwashing machine.
Dishdraining rack.

Dish Washing Machines

The results of standardizing dishwashing by hand have been given on pages 78 to 80, showing that it is possible to



FOLDING DISH DRAINER
(Price $0.75)



DISH DRAINING TRAY
(Price $1.50)

reduce the time nearly one-half by substituting rinsing on a wire drainer for wiping and arranging shelves adjacent to the sink for laying away the dishes. The following tests were made with the most prominent portable dishwashing machines on the market.

Both hand tests and tests with four different types of mechanical commercial dishwashers were made simultaneously over a considerable period. In each of these tests the same number of dishes (50) and silver (50) were used at each test. The temperature of the wash water was 140 degrees with the washers, and 120 degrees with hand

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By CHRISTINE FREDERICK
Consulting Editor Ladies' Home Journal

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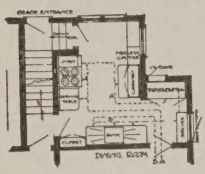

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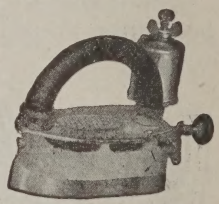

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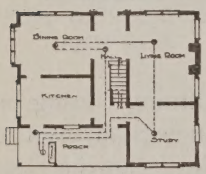

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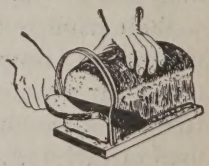

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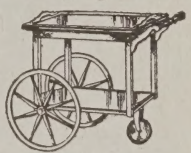

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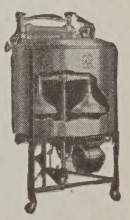

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